CalHR Test Item/KSAPC Linkage Sheet
Stationary Engineer

Exam Section #1

Mathematics			
	CalHR Multi-Departmental Job Analysis KSAPC statement		**Department Job Analysis KSAPC Statement**
1.	Knowledge of basic mathematical operations and calculations (e.g., addition, subtraction, multiplication, division, percentages, order of operations, fractions) to calculate labor, materials, and/or cost estimates for projects and work orders.	1.	
2.	Ability to perform basic mathematical computations (e.g., addition, subtraction, multiplication, division, ratios, percentages) to calculate labor, materials, and/or cost estimates for projects, work orders and additions.	2.	
3.	Ability to convert between units of measurement (e.g., temperature, energy, volume, mass) to calculate workloads and complete project work.	3.	
4.	Ability to determine the accuracy of various mathematical calculations (e.g., addition, subtraction, multiplication, division, ratios, percentages) to verify labor, materials, and/or cost estimates for projects, work orders and additions.	4.	

Exam Section #2

Stationary Engineer Knowledge			
	CalHR Multi-Departmental Job Analysis KSAPC statement		**Department Job Analysis KSAPC Statement**
1.	Knowledge of heating, ventilation, and air conditioning (HVAC) systems, to assess repair needs and determine the proper course of action to fix malfunctioning units.	1.	
2.	Knowledge of elements of a refrigeration system (e.g., compressors, condensers, evaporators, traps, pumps, valves) to assess repair needs and determine the proper course of action to fix malfunctioning units.	2.	
3.	Knowledge of building electric and pneumatic controls to assess building functions and determine the need for repair and replacement of building systems.	3.	
4.	Knowledge of automated building systems (e.g., energy management systems) to assess building functions and determine the need for repair and/or replacement of building systems.	4.	
5.	Knowledge of electrical, water, sewage, and other mechanical systems to assess repair needs and determine the proper course of action to fix malfunctioning units.	5.	
6.	Knowledge of the principles and methods (e.g., sequences of installation, coordination with other trades, conduit bending, wire pulling, rating of equipment) used in the installation, maintenance, and repair of electrical systems and components (e.g., wiring, switches, lighting, transformers, high voltage, switchboards, motor control centers) to accomplish work assignments.	6.	
7.	Knowledge of materials, tools, and equipment (e.g., cable reels, conduit	7.	

	benders, stripping tools, voltage or current meters, wire or cable cutters) used in the installation, maintenance, and repair of electrical systems and components (e.g., wiring, switches, lighting, transformers, high voltage, switchboard, motor control centers, control modules, control boards) to accomplish work assignments.		
8.	Knowledge of the principles and operations of electrical equipment (e.g., wiring, switches, lighting, transformers, switchboards, motor control centers, control modules, control boards) for the installation, maintenance, alteration and repair of electrical systems and components.	8.	
9.	Knowledge of organizational policies and procedures to maintain safety and security of facilities/departments, staff, and property.	9.	
10.	Knowledge of boilers and auxiliary boiler equipment to determine proper maintenance and care of facilities.	10.	
11.	Knowledge of gas and water distribution systems to assess functionality of building systems and determine when repairs are needed.	11.	
12.	Knowledge of steam distribution systems to assess functionality of building systems and determine when repairs are needed.	12.	
13	Knowledge of building water and sewage systems to assess building functions and determine the need for repair of building systems.	13	
14.	Knowledge of tools used by various trades (e.g., electrician, plumber, carpenter, stationary engineer) used in the maintenance and repair of building facilities.	14.	